LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.- 8. (Canceled)

9. (New) A method of checking for collision between items in one or more CAD (computer aided design) drawings generated by a CAD system relating to a project, comprising:

establishing a coordinate system by dividing a space represented by each CAD drawing into a multi-dimensional grid defining grid elements;

assigning a coordinate code to each new item drawn in the space;

assigning data to each item identifying edges of the item in the space in three dimensions;

creating a coordinate file for each new item in a drawing based on the coordinate code for the item;

checking the coordinate file for each new item to determine if the coordinate file already exists and if so, determining if there is a collision between the new item and existing items in the coordinate file based on the edge identifying data and adding the new item to the coordinate file; and

providing an indication of a collision if the edge identifying data indicates that two items occupy the same location within a grid element.

10. (New) The method of claim 9, further comprising:

assigning a drawing code to each drawing relating to the project;

listing each drawing in a catalog file of drawings;

further wherein the step of creating a coordinate file comprises creating a coordinate file for each new item in a drawing based on the coordinate code for the item and the drawing code; and

determining if a collision exists with items having the same coordinate code in other drawings based on the edge identifying data.

11. (New) The method of claim 9, wherein the multidimensional grid has two or three dimensions.

12. (New) The method of claim 9, further comprising assigning an identity code to each item identifying the item.

13. (New) The method of claim 9, further comprising assigning a code identifying items that are attached, connected or touching each other so that collisions between such items are ignored.

14. (New) The method of claim 9, further comprising assigning data to each item providing a description of each item.

15. (New) The method of claim 9, wherein the data identifying edges of each item comprises a list of points representing the edges of each item in three dimensions.

16. (New) The method of claim 15, further comprising specifying a distance to be maintained between objects so that when items pass within the distance but do not collide, a warning is issued.

17. (New) The method of claim 16, further comprising, when items pass within the distance, but do not collide, specifying how close the items are.

18. (New) The method of claim 16, wherein the specified distance is added to the list of points in each dimension to extend the list of points before checking for collisison.

19. (New) The method of claim 9, wherein drawings are located on separate computers connected by a network.

establishing a coordinate system by dividing a space represented by each CAD drawing into a multi-dimensional grid defining grid elements;

assigning a coordinate code to each new item drawn in the space;

assigning data to each item identifying edges of the item in the space in three dimensions;

creating a coordinate file for each new item in a drawing based on the coordinate code for the item;

checking the coordinate file for each new item to determine if the coordinate file already exists and if so, determining if there is a collision between the new item and existing items in the coordinate file based on the edge identifying data and adding the new item to the coordinate file; and

providing an indication of a collision if the edge identifying data indicates that two items occupy the same location within a grid element.

29. (New) The apparatus of claim 28, further wherein the computer software performs the steps of:

assigning a drawing code to each drawing relating to the project; and

listing each drawing in a catalog file of drawings;

further wherein the computer software implements the step of creating a coordinate file by creating a coordinate file for each new item in a drawing based on the coordinate code for the item and the drawing code; and

further wherein the computer software determines if a collision exists with items having the same coordinate code in other drawings based on the edge identifying data.

30. (New) The apparatus of claim 28, wherein the multidimensional grid has two or three dimensions.

31. (New) The apparatus of claim 28, further wherein the computer software assigns an identity code to each item identifying the item.

20. (New) The method of claim 9, wherein each coordinate file has a part indicating a physical location and another part indicating a drawing source.

21. (New) The method of claim 9, further wherein the indication of collision identifies the item collided with and flags the items in the collision.

22. (New) The method of claim 10, further wherein if a collision is detected with an item in another drawing, indicating the catalog file in which the drawing having the collision is located and providing data identifying the item involved in the collision.

23. (New) The method of claim 22 further comprising providing an identity code and coordinates of the item in the other drawing involved in the collision.

24. (New) The method of claim 23, further comprising using a CAD system to move an item in a drawing drawn on the CAD system to avoid the collision or having an item moved in another drawing on another CAD system to avoid the collision.

25. (New) The method of claim 23, further comprising posting a warning message that a collision exists that is activated each time a drawing file in which a collision exists is opened.

26. (New) The method of claim 25, further comprising centering the area of the collision on a display device of the CAD system when the drawing file is opened.

27. (New) The method of claim 19, wherein the network is the Internet.

28. (New) Apparatus for checking for collision between items in one or more CAD (computer aided design) drawings generated by a CAD system relating to a project, comprising:

computer software for operation on the CAD system for:

32. (New) The apparatus of claim 28, further wherein the computer software assigns a code identifying items that are attached, connected or touching each other so that collisions between such items are ignored.

33. (New) The apparatus of claim 28, further wherein the computer software assigns data to each item providing a description of each item.

34. (New) The apparatus of claim 28, wherein the data identifying edges of each item comprises a list of points representing the edges of each item in three dimensions.

35. (New) The apparatus of claim 34, further wherein the computer software specifies a distance to be maintained between objects so that when items pass within the distance but do not collide, a warning is issued.

36. (New) The apparatus of claim 35, further wherein, when items pass within the distance, but do not collide, the computer software specifies how close the items are.

37. (New) The apparatus of claim 36, wherein the specified distance is added to the list of points in each dimension to extend the list of points before checking for collisison.

38. (New) The apparatus of claim 28, wherein drawings are located on separate computers connected by a network.

39. (New) The apparatus of claim 28, wherein each coordinate file has a part indicating a physical location and another part indicating a drawing source.

40. (New) The apparatus of claim 28, further wherein the indication of collision identifies the item collided with and flags the items in the collision.

41. (New) The apparatus of claim 29, further wherein, if a collision is detected with an item in another drawing, the computer software indicates the catalog file in which the drawing having the collision is located and provides data identifying the item involved in the collision.

42. (New) The apparatus of claim 41 further wherein the computer software provides an identity code and coordinates of the item in the other drawing involved in the collision.

43. (New) The apparatus of claim 42, further wherein the computer software moves an item in a drawing drawn on the CAD system in response to user input to avoid the collision or requests that an item be moved in another drawing on another CAD system to avoid the collision.

44. (New) The apparatus of claim 42, further wherein the computer software posts a warning message that a collision exists that is activated each time a drawing file in which a collision exists is opened.

45. (New) The apparatus of claim 44, further wherein the computer software centers the area of the collision on a display device of the CAD system when the drawing file is opened.

46. (New) The apparatus of claim 38, wherein the network is the Internet.